Safety Data Sheet - GHS
Ethylene Glycol 60%

Date of Revision: December 3, 2019

Section 1 - Chemical Product and Company Identification

Product Name: Ethylene Glycol 60%
Synonyms: EG 60; 1,2-ethanethiol, Glycol
Product Use: Industrial Heat Transfer Fluid
Restrictions On Use: Not Applicable
Supplier: CFR Chemicals
38451 Range Road 22
County of Red Deer T4E 2N6
General Assistance: 1 (877) 269-3419
Emergency Telephone: Not Dangerous Goods – Call General Assistance
Date of Preparation of SDS: April 1, 2017

Section 2 – Hazard Identification

Signal Word: Warning

Hazard Statement:
H302 Harmful if swallowed.
H373 May cause damage to organs (Kidney) through prolonged or repeated exposure if swallowed.

Precautionary Statement
Prevention
P260 Do not breathe dust/gas/mist/vapours.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/eye protection/face protection.

Response
P301 + P312 +P330 IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell. Rinse Mouth.
P314 Get medical advice/attention if you feel unwell.

Storage: No Statements.
Disposal
P501 Dispose of contents/container to an approved waste disposal unit.

GHS Classification
Acute Toxicity (oral) (Category 4)
Specific target organ toxicity - repeated exposure, oral (Kidney) (Category 2)

HMIS Classification
Health Hazard 1
Chronic Health Hazard *
**Flammability**
1

**Physical Hazards**
0

**Potential Health Effects**

| Inhalation | May be harmful if inhaled. Causes respiratory tract irritation. |
| Skin | May be harmful if absorbed through skin. |
| Eye | Causes eye irritation. |
| Ingestion | May be harmful if swallowed. |

### Section 3 – Composition Information on Ingredients

<table>
<thead>
<tr>
<th>HAZARDOUS INGREDIENT, Common Name</th>
<th>Hazardous Ingredient, Synonyms</th>
<th>PERCENT</th>
<th>CAS NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene Glycol</td>
<td>1,2-ethanediol, EG, Glycol</td>
<td>60%</td>
<td>107-21-1</td>
</tr>
<tr>
<td>Water</td>
<td>H₂O, Aqua</td>
<td>40%</td>
<td>7732-18-5</td>
</tr>
</tbody>
</table>

* = Various ** = Mixture *** = Proprietary

### Section 4 - First Aid Measures

**Inhalation**
Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

**Eye Contact**
Immediately flush eyes with plenty of water, occasionally lifting the upper and lower lids. Check for and remove contact lenses. Continue to rinse for at least 15 minutes. Get medical attention.

**Skin Contact**
Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion**
Get medical attention immediately. Call a poison control centre or physician. IF alert, rinse mouth and drink ½ to 1 glass of water to help dilute the material. Do not give liquids to a drowsy, convulsion, or unconscious patient. Do NOT induce vomiting. If vomiting occurs, the head should be kept low so vomit does not enter the lungs. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as collar, tie, belt or waistband.

**Most Important Symptoms/Effects both Acute and Delayed**
Harmful if swallowed. May cause damage to the kidneys if swallowed. May cause drowsiness or dizziness. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. May cause slight eye and skin irritation. Symptoms include: Redness, swelling, itching and dryness. Suspected of damaging the unborn child.

**Note to Physician**
Kidney toxicity may be recognized by blood in the urine or increased or decreased urine flow. Other signs and symptoms can include nausea, vomiting, abdominal cramps, diarrhea, lumbar pain shortly after ingestion, and possibly narcosis and death. Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision. Skin irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blisters. Respiratory
irritation signs and symptoms may include a temporary burning sensation of the
nose and throat, coughing, and/or difficulty breathing.
IMMEDIATE TREATMENT IS EXTREMELY IMPORTANT! May cause significant renal,
respiratory, and CNS toxicity. May cause significant acidosis. Call a doctor or
poison control center for guidance.

### Section 5 – Fire-Fighting Measures

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash Point (°C)</td>
<td>Not flammable</td>
</tr>
<tr>
<td>Flash Point Method</td>
<td>PMCC</td>
</tr>
<tr>
<td>Auto Ignition Temperature</td>
<td>225°C</td>
</tr>
<tr>
<td>Conditions of Flammability</td>
<td>Not flammable or combustible.</td>
</tr>
<tr>
<td>Extinguishing Media</td>
<td>Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.</td>
</tr>
<tr>
<td>Unsuitable Extinguishing Media</td>
<td>Water jet.</td>
</tr>
<tr>
<td>Unusual Fire/ Explosion Hazard</td>
<td>No data available.</td>
</tr>
<tr>
<td>Hazardous Combustion Products</td>
<td>Carbon oxides.</td>
</tr>
<tr>
<td>Fire Fighting Equipment</td>
<td>Wear appropriate protective equipment and self-contained breathing apparatus with a full face-piece operated in positive pressure mode.</td>
</tr>
<tr>
<td>Special Precautions for</td>
<td></td>
</tr>
<tr>
<td>Firefighters</td>
<td>No data available.</td>
</tr>
</tbody>
</table>

### Section 6 – Accidental Release Measures

<table>
<thead>
<tr>
<th>Precaution</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal precautions</td>
<td>Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapour can accumulate in low areas.</td>
</tr>
<tr>
<td>Environmental precautions</td>
<td>Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.</td>
</tr>
<tr>
<td>Methods and materials for containment and cleaning up</td>
<td>Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.</td>
</tr>
</tbody>
</table>

### Section 7 – Handling and Storage

<table>
<thead>
<tr>
<th>Precaution</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precautions for safe handling</td>
<td>Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.</td>
</tr>
<tr>
<td>Conditions for safe storage</td>
<td>Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Hygroscopic.</td>
</tr>
<tr>
<td>Incompatible Materials</td>
<td>Strong Acids, Strong Bases.</td>
</tr>
</tbody>
</table>
Section 8 – Exposure Controls / Personal Protection

**Ingredient Name**
Ethylene Glycol

**Exposure Limits**

- **Canada, Alberta OHSC Code**
  - 100mg/m³

- **ACGIH TLV**
  - TLV: 100mg/m³

**Personal protective equipment**

- **Eye/face protection**
  - Chemical safety glasses with side shields to prevent eye contact. As a general rule do not wear contact lenses when handling chemicals. If contact is possible, the following protection should be worn: Splash goggles. Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases, or dusts. If inhalation hazards exist, a full-face respirator may be required instead.

- **Skin protection**
  - Wear chemical resistant gloves, impermeable protective clothing and safety shoes. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

- **Respiratory protection**
  - Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary.

- **General hygiene Considerations**
  - Handle in accordance with good industrial hygiene and safety. Eye wash fountains and safety showers must be easily accessible.

- **Specific engineering controls**
  - Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. Use explosion-proof ventilation equipment.

Section 9 – Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance &amp; Odour</td>
<td>Clear, colourless. Odourless.</td>
</tr>
<tr>
<td>Vapour Pressure</td>
<td>0.06 kPa (20.0°C)</td>
</tr>
<tr>
<td>Vapour Density</td>
<td>2.14 (Air = 1)</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.05 – 1.07</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>Not available.</td>
</tr>
<tr>
<td>(n-octanal/water)</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>7.0 – 9.0 Neat</td>
</tr>
<tr>
<td>Flashpoint (Method)</td>
<td>Not flammable</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability (Solid, Gas)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>miscible</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>Not Available</td>
</tr>
<tr>
<td>Boiling Point Range</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Melting Point</td>
<td>Not Available</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>Not Available</td>
</tr>
<tr>
<td>Lower Explosive Limit</td>
<td>Not Available</td>
</tr>
<tr>
<td>Upper Explosive Limit</td>
<td>Not Available</td>
</tr>
<tr>
<td>(UEL)</td>
<td></td>
</tr>
<tr>
<td>Auto Ignition temperature</td>
<td>225°C</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Section 10 – Stability and Reactivity

Reactivity
No specific test data related to reactivity available for this product.

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
No data available.

Conditions to avoid
No data available.

Materials to avoid

Hazardous decomposition products
Carbon oxides.

Section 11- Toxicological Information

Information on Likely Routes of Exposure

Inhalation:
May be harmful if inhaled. May cause respiratory tract irritation.

Skin contact
Harmful if absorbed through the skin. May cause skin irritation.

Eye contact
May cause eye irritation.

Ingestion
May cause abdominal discomfort or pain, nausea, vomiting, dizziness, drowsiness, malaise, blurring of vision, irritability, lumbar pain, oliguria, uremia, and central nervous system effects, including irregular eye movements, convulsions and coma. Cardiac failure, pulmonary edema, and severe kidney damage may develop. May be fatal if swallowed, lethal dose in adult humans for ethylene glycol is approximately 100 mL.

Acute and Chronic Toxicity
Poison. Toxic if swallowed. If swallowed there is a risk of blindness.

Acute toxicity

<table>
<thead>
<tr>
<th>Product/Ingredient Name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene Glycol</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>4700mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>10626mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation
Slightly irritating to skin.

Serious eye damage/ Eye irritation
Slightly irritating to the eye.

Respiratory or skin sensitization
No data available. Not expected to be a sensitizer.

Mutagenicity
No known significant effects or critical hazards.

Carcinogenicity
IARC:
No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity
Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

Teratogenicity
Laboratory experiments have shown teratogenic effects.

Specific target organ toxicity - single exposure (Globally Harmonized System)
No data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)
Oral - May cause damage to organs through prolonged or repeated exposure. - Kidney

Aspiration hazard  No data available.

Delayed and Immediate Effects and also Chronic Effects from Short and Long Term Exposure

Short Term Exposure
- Potential immediate Health Effects  No data available.
- Potential Delayed Health Effects  No data available.

Long Term Exposure
- Potential immediate Health Effects  No data available.
- Potential Delayed Health Effects  No data available.
- Potential Chronic Effects  No data available.

Synergistic effects  No data available

### Section 12 – Ecological Information

#### Toxicity

<table>
<thead>
<tr>
<th>Product / Ingredient Name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene Glycol</td>
<td>LC50 18500mg/L Fish – Oncorhynchus mykiss</td>
<td>96 Hr</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LC50 &gt;1000mg/L Fish – Leuciscus idus</td>
<td>48 Hr</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EC50 74000mg/L Daphnia – Daphnia magna</td>
<td>24 Hr</td>
<td></td>
</tr>
</tbody>
</table>

- Persistence and degradability  No data available.
- Bioaccumulative potential  Does not bioaccumulate.
- Mobility in soil  No data available.
- PBT and vPvB assessment  No data available

### Section 13 – Disposal Considerations

#### Product
Do not discharge substance/product into sewer system. Dispose of in accordance with national, regional, and local regulations.

#### Contaminated packaging
Dispose of as unused product in a licensed facility. Recommend crushing, puncturing, or other means to prevent unauthorized use of used containers. Do not cut, weld, or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled materials and runoff and contain with soil, waterways, drains, and sewers.

### Section 14 - Transportation Information

CANADA Transportation of Dangerous Goods (TDG)
Not Dangerous Goods

Section 15 – Regulatory Information

DSL (Canadian Domestic Substances List) and CEPA (Canadian Environmental Protection Act)
All components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

TSCA Inventory
All components are listed or exempted.
This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations and the SDS contains all the information required by the Hazardous Products Regulations.

Section 16 – Other Information

REVISION SUMMARY:
Date of Preparation April 1, 2017
Date of Revision December 3, 2019

SDS Prepared by: CFR Lab Manager

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